

1.0 Background and Purpose

The objective of the United States Clean Water Act (USCWA) is to "*restore and maintain* the chemical, physical, and biological integrity of the Nation's Waters" (USCWA, 1988). In order to meet this objective, and exert its sovereign authority to protect its water resources, the Navajo Nation codified the Navajo Nation Clean Water Act (NNCWA 1999) in July 1999. The importance of water to the Navajo Nation is clearly demonstrated by the adoption of the NNCWA, with the Navajo Nation being only one of a few tribes or states to adopt a formal clean water act. The NNCWA provides the legislative authority to allow the Navajo Nation to fulfill the USCWA requirements.

In order to *restore and maintain* the chemical, physical, and biological integrity of the Nation's Water, states and federally recognized tribes adopt water quality standards which protect the uses of the Nation's water bodies. Water quality standards are narrative and numeric criteria used as benchmarks to determine if a designated use for a water body is being attained. NNCWA Section 103(a)(2)(A) provides for "the establishment of water quality standards to protect fish and wildlife and the domestic, cultural, agricultural and recreational uses of the waters of the Navajo Nation." This is consistent with the "fishable and swimmable goal" set forth in USCWA Sections 101(a)(2) and 303(c)(2). NNCWA Sections 201(b) and (c) requires that designated uses be established for public water supplies, the protection and propagation of fish and wildlife, recreational purposes, agricultural (including livestock watering), industrial, cultural, and other uses, and to establish criteria to protect the designated uses.

The Navajo Nation first codified the 1999 Navajo Nation Water Quality Standards (1999 NNWQS) in July 1999 (NNEPA 1999). On January 20, 2006 the US Environmental Protection Agency (USEPA) approved the Navajo Nation's application to administer the Water Quality Standards and Certification Programs under the federal Clean Water Act's Sections 303 and 401. The approval was granted using the 1999 Navajo Nation Water Quality Standards (NNEPA 1999). The Navajo Nation subsequently codified the 2007 Navajo Nation Surface Water Quality Standards (2007 NNSWQS) in May, 2008. The Navajo Nation is currently awaiting USEPA approval of the 2007 NNSWQS.

The Navajo Nation Environmental Protection Agencies (NNEPA) Water Quality / Navajo Nation Pollutant Discharge Elimination System Program (NNEPA WQ/NNPDES Program) is responsible for implementing the requirements of the USCWA and the NNCWA within the Navajo Nation.

The purpose of this report is to provide an annual assessment of the quality of Navajo Nation surface waters using the 2007 NNSWQS. (Ground water quality will not be discussed at this time due to staffing and resource constraints). This report includes a description of our monitoring strategy, a surface water quality assessment, and electronic copies of surface water quality data. This report fulfills the federal Clean Water Act Section (CWA) 305(b) reporting requirements and EPA's CWA § 106 Tribal Guidance, Chapter 8 and Appendix A, assessment reporting requirements. It also fulfills assessment reporting requirements in the “Navajo Nation Environmental Protection Agency Water Quality/Navajo Nation Pollutant Discharge Elimination System Program, Federal Clean Water Act Performance Partnership Grant” Work Plan.

The NNEPA WQ/NNPDES Program has previously prepared a variety of reports that provide information on water quality on the Navajo Nation (NNEPA 1997, 1998a, 1998b, 1998c, 2000a, 2001, 2003a, 2003b, 2005). Water quality information in these reports was both qualitative and quantitative. The 2008 Surface Water Quality Assessment is intended to be a living document, which can be updated annually to include the latest information on the quality of Navajo Nation surface waters. The NNEPA WQ/NNPDES Program welcomes all comments that will assist in revising this report in the future.

2.0 Surface Waters of the Navajo Nation

The Navajo Nation encompasses 17,627,262 acres, an area approximately the size of West Virginia. The Navajo Nation is located in the Four Corners region and extends into the states of Arizona, New Mexico, and Utah. There are approximately 39,000 miles of streams and 17,057 acres of lakes/ponds on the Navajo Nation. Five major river basins drain the Navajo Nation: San Juan, Little Colorado River, Lower Colorado River-Lake Mead, Upper Colorado River-Dirty Devil, and Rio Grande-Elephant Butte. Navajo Nation jurisdictional surface waters are located in 29 watersheds in these five river basins (Table 2.0). The 29 watersheds are watersheds that have been assigned an eight-digit Hydrologic Unit Code (HUC) by the United States Geological Survey (USGS 1987). There are currently 120 named surface water bodies with designated uses listed in 2007 NNSWQS Table 205.1. Water quality assessment information for the 29 watersheds is presented in Chapters 5 to 33 of this report.

Table 2.0 Watersheds of the Navajo Nation

Watershed Name	Watershed Code	8-digit HUC
Chinle Wash	01	14080204
Lower San Juan - Four Corners	02	14080201
Montezuma Creek	03	14080203
McElmo Creek	04	14080202
Arroyo Chico	05	13020205
Chaco Wash	06	14080106
Mancos River	07	14080107
Upper San Juan River	08	14080101
Blanco Canyon	09	14080103
Middle San Juan River	10	14080105
Rio Puerco	11	13020204
Rio San Jose	12	13020207
Rio Salado	13	13020209
Zuni River	14	15020004
Upper Puerco River	15	15020006
Lower Puerco River	16	15020007
Leroux Wash	17	15020009
Cottonwood Wash	18	15020011
Middle Little Colorado River	19	15020008
Jeddito Wash	20	15020014
Polacca Wash	21	15020013
Canyon Diablo	22	15020015
Corn-Oraibi Wash	23	15020012
Dinnebito Wash	24	15020017
Lower Little Colorado River	25	15020016

Moenkopi Wash	26	15020018
Lower Colorado/Marble Canyon	27	15010001
Lower Lake Powell	28	14070006
Lower San Juan River	29	14080205

3.0 Monitoring Strategy

Monitoring of Navajo Nation surface waters is conducted in order to compare the water quality data gathered during these activities to the 2007 NNSWQS and determine if uses designated for these surface waters are being supported. Surface waters that do not support their designated uses are considered impaired. The assessment of surface waters to determine designated use support and impairment is consistent with USCWA Sections 305(b) and 303(d), respectively. Impairment of Navajo Nation surface waters is determined using the February 20, 2008 NNEPA document entitled: "Guidance for Assessing the Quality of Navajo Nation Surface Waters to Determine Impairment".

The monitoring strategy described in this section modifies the NNEPA WQ/NNPDES Program monitoring strategy described in the October 4, 2000 document entitled: "Watershed Strategy for Surface Water Quality Monitoring and Assessment". The monitoring strategy will be reviewed annually to determine if any modifications are required.

3.1 Sources of Water Body Impairment

There are four primary water quality monitoring methods used to determine if surface waters of the Navajo Nation are impaired. They are listed as follows:

1. Biological - Biological assemblage data such as fish, benthic macroinvertebrates, and wildlife community characteristics.
2. Habitat - Qualitative and/or quantitative riparian and aquatic vegetation information, and geomorphic characteristics and functions.
3. Chemical/Physical - Chemical and physical water quality data such as metals,

inorganics, organics, radionuclides, temperature, suspended solids, and ionic strength.

4. Toxicological - Includes bioassays, whole effluent toxicity testing (WET), and acute and chronic sediment testing.

At this time impairment of Navajo Nation surface waters using the “Guidance for Assessing the Quality of Navajo Nation Surface Waters to Determine Impairment” is determined using Chemical/Physical monitoring methods. To a lesser extent habitat and biological monitoring methods are also used. The NNEPA WQ/NNPDES Program seeks to expand its biological and habitat monitoring in the future, and may include toxicological methods on a case-by-case basis.

Sources of physical, chemical, and biological impairments to Waters of the Navajo Nation are numerous. A detailed description of Navajo Nation water quality stressors and their sources is provided in Chapter 4 of NNEPA’s September 1997 document entitled: “Navajo Nation 1997 Tribal Water Quality Assessment (Clean Water Act Section 305(b) Report)” (1997 305(b) Report). The impairment sources mentioned in the report still exist today and are described below.

Agriculture

Agriculture remains a prominent source of contamination in surface waters because it is the principal land use on the Navajo Nation in terms of area. Agricultural activities on the Navajo Nations that impair water quality include irrigation and unmanaged livestock grazing.

Irrigation

Irrigation projects undertaken by the Navajo date to at least the 16th century, when Navajos living in Largo Canyon near the San Juan River constructed brush dams to divert river waters onto their fields. In 1858, American troops reported the presence of irrigation ditches in the Chinle Wash. By 1900, Navajo farmers had dug 37 miles of ditches along the San Juan River, irrigating more than 270 fields in the region (USDA SCS 1986).

Current irrigation projects on the Navajo Nation are carried out on the Navajo Indian Irrigation Project (NIIP), along the flood plain and terraces of the San Juan River in New Mexico, and in the Many Farms,

Arizona area. The largest of these projects is the NIIP, which was established by the Navajo Agricultural Products Industry (NAPI) in 1976. When completed, the project will include approximately 110,000 irrigated acres.

Irrigation of Navajo Nation land also takes place at the local level, with numerous residents and families growing corn, squash, alfalfa and other crops for personal use or to be sold at market. Many of these lands may be ten acres or less.

Irrigation can adversely effect water quality through the diversion of water from natural systems as well as through the discharge of return flows (NMWQCC 1994). Diversion from streams in New Mexico has completely dried up certain reaches of streams in that State. Runoff from irrigation has been associated with water quality impacts from sediment, turbidity, suspended and dissolved solids, pesticides, herbicides, nutrients, and metals (NNEPA 1995). Irrigation increases dissolved solids and salinity by precipitating out ions into surrounding soils during the irrigation cycle. Subsequent salts are then remobilized in the dissolved phase as more water is applied to the soil, increasing ion concentrations in agricultural runoff waters.

Livestock Grazing

Livestock grazing has been carried out by the Navajo since the Spanish introduced livestock to the western hemisphere in the 16th century. Considered “one of the dominant characteristics of Navajo culture” (NNEPA 1995), grazing of cattle, horses, sheep and goats is currently conducted throughout the Navajo Nation, often in sensitive riparian areas.

Most rangeland within the Nation is in a degraded condition due to a lack of grazing management, which consists largely of moving herds in response to changing seasons (NNEPA 1995). Water quality elements that are most sensitive to grazing are sediment, nutrients, temperature, dissolved oxygen, bacteria, and streambank stability. Effects of grazing practices have been summarize as

- drainage of wet meadows or lowering of the water table;
- changes in the magnitude and timing of nutrients entering the stream;
- changes in the timing and volume of streamflow;
- increased water temperature;
- increases in coliform bacteria;

- decreases in stream canopy cover;
- increases in suspended load and turbidity; and
- increases in stream width and decreases in stream depth.

Runoff from a heavily grazed watershed may be 1.4 times greater than a moderately grazed watershed and nine times greater than that from a highly grazed watershed (Rauzi and Hanson 1966). Studies have shown that sediment loads were reduced 48-79 percent while flowing through 3.5 miles of a stream protected from grazing (Winegar 1966). Riparian wetlands not damaged by grazing can filter nutrients to help control agricultural non-point source pollution (Lowrance 1985).

Increased bacterial pollution and nutrient concentrations coincide with increased grazing intensity. Livestock fecal material can alter stream chemistry and fertility (Wagstaff 1986). Watersheds from which livestock have been excluded have lower fecal coliform counts than grazed watersheds (Mullen 1983).

Resource Extraction

Resource extraction, in the form of coal, uranium, and copper mining, as well as the development of oil and gas deposits, has been and historically is an important source of income and employment for the Navajo Nation. Active and inactive resource extraction sites have significant impacts on water quality and are the focus of major remediation efforts at several locations within the Nation.

Mining

Coal mining is one of the largest sectors of the Navajo Nation economy. There are four coal mining leases on Navajo lands: BHP World Minerals (Navajo Mine), Pittsburgh & Midway Coal Company (McKinley Mine), and Peabody Coal Company (Black Mesa and Kayenta Mines) (NNDP undated). In addition to the active mines, NNEPA reports one abandoned coal mine.

There are more than 1,000 abandoned uranium mines throughout the Navajo Nation, including the Black Mesa, Cameron, and Church Rock Districts in the Little Colorado Basin, and the Shiprock and Monument Valley Districts in the San Juan Basin. Uranium milling operations conducted at Monument Valley, Tuba City, Mexican Hat and Shiprock sites are now the focus of Uranium Mill Tailings Remedial Action

(UMTRA) Project remediation efforts (NNEPA 1995). Uranium milling was also conducted at the United Nuclear Church Rock Mill, a site being remediated through the NNEPA Superfund Program.

There are no active uranium mining operations on the Navajo Nation. However, Hydro Resources Incorporated has proposed to begin *in situ* uranium mining at Church Rock and Crownpoint, New Mexico. *In situ* mining involves injecting reactive solutions into ore-bearing strata to dissolve the uranium ore, and then pumping the impregnated liquids back to the surface for ore extraction. The residual liquid is then commonly reinjected beneath the ore-bearing strata. The proposed *in situ* uranium mining has not yet commenced due to pending litigation, recently proposed federal regulations, and uranium market conditions.

Mining of coal and uranium, and uranium milling, can contribute inorganics, sediment, solids, metals, and radionuclides to water resources. Chemicals used in mining processes include sulfuric and nitric acids, caustic soda, potash, and barium chloride.

Sand and gravel mining is carried out in Houck, Indian Wells, Nazlini, Granado Dam, Blue Canyon, Montezuma Creek, and Iyanbito; there are also nine operations scattered around Aneth. Permits for these facilities are reviewed by several Navajo Nation departments, and are issued by the Navajo Nation Minerals Department (NNMD). The major source of impairment associated with these operations is hydromodification, in the form of channel dredging. In addition to permitted mines there is a considerable amount of non-permitted dredging of sand and gravel in washes on the Navajo Nation.

While mining activity discharge is considered a point source by USEPA and therefore regulated under federal CWA Section 402, the whereabouts of many of the parties responsible for abandoned mines are unknown. Thus NPDES permitting is not feasible in most cases, resulting in the classification of these sites as nonpoint sources (NNEPA 1995). Programs which address abandoned uranium mining operations on the Navajo Nation include the Navajo Abandoned Mine Lands Reclamation (AMLR) Department, and the NNEPA Superfund Program.

Oil and Natural Gas Field Sources

Oil and natural gas fields on the Navajo Nation are located in Utah and New Mexico. Oil drilling and refining operations have been associated with elevated concentrations of salinity in ground water.

Releases of pollutants such as produced water and drilling muds from surface impoundments, as well as leaking pipelines, are also sources of contamination associated with oil fields. Cleanup of unlined waste pits at refining operations in Aneth, Utah and Shiprock, New Mexico has been undertaken because the sites threatened are water quality.

Refined Petroleum Product Sources

Underground storage tanks (USTs) that are found to be leaking constitute a serious threat to water quality. These tanks, typically housing petroleum products, are found throughout the Navajo Nation. Leaking underground storage tanks (LUSTs) at gas stations in Tuba City, Arizona have led to administrative orders against two operators. NNEPA reports 435 listed UST sites on Navajo lands, of which approximately 168 are abandoned (NNEPA 1997).

Other locations of refined petroleum product contamination include the Prewitt Abandoned Refinery Superfund Site, the ENRON Thoreau Compressor Station, and other undefined sources such as pipeline compressor stations and garages without UST's. Degraded water quality associated with these sites comes from gasoline, oil, diesel, gasoline additives, petroleum compounds such as benzene, toluene, ethyl benzene, and xylene, and from halogenated hydrocarbon solvents. Lead which was historically found in many petroleum products, is often associated with contamination of these sites (NMWQCC 1994).

Silviculture

The impacts of silviculture on Navajo Nation waters are primarily associated with logging activities in the Navajo Nation Forest, which includes approximately 540,000 acres in the Chuska Mountains near the Arizona-New Mexico boundary. The Navajo Forest Products Industry is authorized to cut as much as 40 million board-feet of lumber annually, the majority of which is harvested in the Chuska Mountains. This area which has been commercially logged since the late 1950s, contains a vast network of logging roads in various states of repair. Nonpoint source pollutants associated with timber harvesting and attendant road construction include sediment, and suspended solids (NNEPA 1995). Increased sedimentation may lead to decreases in dissolved oxygen which can affect aquatic habitats. Commercial timber operations

have been suspended Nation-wide pending the completion of an environmental impact statement (EIS) on the Navajo Department of Forestry ten-year management plan.

Hydromodification

Hydromodification is widespread in and around the Navajo Nation. Activities included in this category include channelization, dredging, flow regulation, diversions, soil inundation, ground water pumping, dam, bridge, and road construction, stream bank and riparian modification, and/or the drainage or filling of wetlands. Hydromodification often occurs as a secondary result of another activity. For instance, grazing may result in riparian destruction or stream bank modification (ADEQ 1996a).

Construction

Road, bridge, and building construction impact water quality by disturbing soil conditions and increasing potential erosion and stream sedimentation. Construction impacts to water quality come from sediment, suspended solids, as well as petroleum products and solvents used in construction which may be carried by sediment.

Studies of traditional road location, design, and construction in the arid and semi-arid portions of the West suggest that these activities have resulted in a net loss of both acreage and related values in riparian areas (La Fayette et al 1993). Impacts of these activities include drainage of riparian ecosystems, reduced site productivity, habitat destruction, reduced base flows and increased peak flows, gully development, and accelerated downstream sedimentation. Best Management Practices (BMPs) to counter these effects include road obliteration, road relocation, modified culvert design, raised culvert inlets, modified bridge and ford designs, flow dispersal, stilling basins, and more frequent and effective ditch management. Implementation of these BMPs in the USDA Forest Service Southwestern Region has resulted in the rehabilitation of nearly 100 acres of degraded riparian area.

Sewage Treatment Systems

Sewage effluent from both regional wastewater treatment plants and from household septic systems can discharge into underlying shallow aquifers, springs, and adjacent surface waters. Contaminants associated with these systems include bacteria, metals, sediment, nutrients, volatile organic compounds,

oils, greases, nitrates, detergents, ethylene glycol, pharmaceuticals, and microbiological contamination. Wastewater treatment plants discharging into Navajo surface waters are required to obtain NPDES permits. There are approximately 240 sewage treatment lagoon facilities within the Nation. About ten percent are NPDES permitted; the remainder are considered non-discharging under NPDES regulations. In contrast, environmental regulation of household septic system discharges is often nonexistent and only occurs after a discharge into a surface water body is observed.

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Landfills

Contaminants associated with regional landfills and wildcat landfills are diverse, as the constituent makeup of individual sites varies greatly. Constituents known to occur in landfill and dump leachate include organic contaminants, chloride, solvents, and nitrogen species. In the past, pumping large amounts of septage into unlined pits was a common practice (NMWQCC 1994).

Environmental assessments of several BIA landfills on the Navajo Nation were undertaken in 1995 (EMI 1995). These landfills had been closed by the BIA because of noncompliance. Impacts were assessed at sites in Tuba City, Red Lake, Cove, Red Valley, Chuska, Dził-Na-ODíth-Hí, Torreon, Pine Springs, Wide Ruins, Kinlichee, Seba Dalkai, Greasewood, Dilkon, Kaibeto, Chilchinbeto, Rocky Ridge, Shonto, Rock Point, Black Mesa, and Dennehotso. Many of these landfills were located in or adjacent to ephemeral washes.

Storm Water Runoff

Studies by the USCS in Arizona indicate that storm water runoff from urban areas increased concentrations of chemical oxygen demand, biological oxygen demand, oil and grease, pesticides, cadmium, lead, zinc, volatile organic compounds, and fecal bacteria in area surface water (ADEQ 1996a). Concentrations of these contaminants were highest in areas associated with industrial land uses and an increased percentage of impervious area, such as parking lots. Sources include sediment from construction and industrial sites, vehicles (oil and gasoline), lawns (pesticides and fertilizers), pet waste, and household chemicals.

Best Management Practices for storm water runoff outlined by the USEPA function on the principle that runoff should be retained for a period of time before being discharged. This practice controls the peak flow rates of water released from a site, and allows pollutants to be removed from the water column. Constructed ponds, lakes, and wetlands have proven effective in reducing the negative impacts of storm water runoff (USEPA 1995b).

3.2 Parameters Of Concern

As previously mentioned in order to *restore* and *maintain* the chemical, physical, and biological integrity of the Nation's Water, narrative and numeric water quality standards are used as benchmarks to determine if a designated use for a water body is being attained. If the use is not being attained the water body is

considered impaired. Sections 202, 204 and 206 of the 2007 NNSWQS provide the narrative and numeric criteria applicable to Navajo Nation surface waters. These criteria include standards for physical characteristics, nutrients, inorganics, organics, bacteria, radiochemicals, algae, chlorophyll, fish tissue, and narrative descriptors. Of additional concern are other parameters with no current criteria such as pharmaceuticals and personal care products. From this large list, the surface water sampling efforts of the NNEPA WQ/NNPDES Program focus on the parameters most likely to be found at a given surface water sampling site based on sampling history. Some parameters are a concern at all sites, while some are a concern only at lakes, streams, or surface waters dominated by effluent discharges from waste water treatment plants (effluent dominated). A list of the parameters of concern and the applicable surface water sampling sites are provided in Table 3.2. The list of parameters of concern is expected to be modified to become site specific as more water quality data is gathered for individual surface waters.

3.3 Surface Water Monitoring Locations

Given the size of the Navajo Nation, NNEPA WQ/NNPDES Program does not have enough personnel to sample all surface waters at all times. Ideally sampling of flowing surface waters would occur as a function of the individual stream hydrograph. At a minimum, samples would be obtained from flowing surface waters during base flow (perennial streams), spring snow melt, and during precipitation flood flows. Variations in chemical and physical parameters could then be compared as a function of discharge. Sampling of static waters such as lakes and reservoirs would ideally occur during times of peak productivity (April to October for warm waters and May to September for cold waters).

All sampling efforts are conducted with the goal of obtaining water quality data used to determine surface water designated use support and impairment as described in Section 3.0 above. Sampling of surface waters may be conducted at long-term sites, special project sites, and/or sites selected on a rotating watershed basis.

Long-Term Sites

Given the preceding constraints the current NNEPA WQ/NNPDES Program sampling approach is to sample as many significant water bodies in as many watersheds as budget and staff resources allow. Sampling is focused on perennially flowing surface waters, major ephemeral surface waters, and known fishing lakes and reservoirs. Over time a list of Long-Term Sites has been developed. *Long-Term Sites* are sites to be monitored yearly and are intended to be representative of an entire stream, lake, or

watershed. These fixed sites have been established in various locations across the Navajo Nation to determine overall trends in water quality. A list of long-term sites is provided in Table 3.3.

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Table 3.2 Parameters of Concern

Parameter	Surface Water Sampling Site	Parameter	Surface Water Sampling Site
17-alpha-estradiol	Effluent dominated.	Conductivity	Lakes, streams, and effluent dominated.
17-alpha-ethynylestradiol	Effluent dominated.	Cyanide (as free Cyanide)	Lakes, streams, and effluent dominated.
17-beta-estradiol	Effluent dominated.	Dissolved Oxygen	Lakes, streams, and effluent dominated.
Acetaminophen	Effluent dominated.	Hardness	Lakes, streams, and effluent dominated.
Androstenedione	Effluent dominated.	Lead (Pb)	Lakes, streams, and effluent dominated.
Atrazine	Effluent dominated.	Magnesium	Lakes, streams, and effluent dominated.
Bisphenol A	Effluent dominated.	Mercury	Lakes, streams, and effluent dominated.
Caffeine	Effluent dominated.	Nickel (Ni)	Lakes, streams, and effluent dominated.
Carbamazepine	Effluent dominated.	pH	Lakes, streams, and effluent dominated.
DEET	Effluent dominated.	Potassium	Lakes, streams, and effluent dominated.
Diazepam	Effluent dominated.	Selenium (Se)	Lakes, streams, and effluent dominated.
Diethylstilbestrol	Effluent dominated.	Silver (Ag)	Lakes, streams, and effluent dominated.
Estriol	Effluent dominated.	Sodium	Lakes, streams, and effluent dominated.
Estrone	Effluent dominated.	Sulfate	Lakes, streams, and effluent dominated.
Fluoxetine	Effluent dominated.	Temperature	Lakes, streams, and effluent dominated.
Hydrocodone	Effluent dominated.	Thallium (Tl)	Lakes, streams, and effluent dominated.
Ioprimide	Effluent dominated.	Total Kjeldahl nitrogen	Lakes, streams, and effluent dominated.
Meprobamate	Effluent dominated.	Total Phosphorous (as P)	Lakes, streams, and effluent dominated.
Oxybenzone	Effluent dominated.	Turbidity	Lakes, streams, and effluent dominated.
Pentoxifyline	Effluent dominated.	Vanadium (V)	Lakes, streams, and effluent dominated.
Progesterone	Effluent dominated.	Zinc (Zn)	Lakes, streams, and effluent dominated.
Sulfamethoxazole	Effluent dominated.	Blue-Green Algae	Lakes.
Testosterone	Effluent dominated.	chlorophyll a	Lakes.
Trimethoprim	Effluent dominated.	Total Algae	Lakes.
Aluminum (Al)	Lakes, streams, and effluent dominated.	Total Nitrogen	Lakes.
Ammonia-N	Lakes, streams, and effluent dominated.	Boron	Streams and effluent dominated.
Antimony (Sb)	Lakes, streams, and effluent dominated.	Chloride	Streams and effluent dominated.
Arsenic (As)	Lakes, streams, and effluent dominated.	Copper (Cu)	Streams and effluent dominated.
Barium (Ba)	Lakes, streams, and effluent dominated.	Fluoride (mg/L)	Streams and effluent dominated.
Beryllium (Be)	Lakes, streams, and effluent dominated.	Gross Alpha (pCi/L)	Streams and effluent dominated.
Bicarbonate	Lakes, streams, and effluent dominated.	Molybdenum (Mo)	Streams and effluent dominated.
Cadmium (Cd)	Lakes, streams, and effluent dominated.	Nitrite	Streams and effluent dominated.
Calcium	Lakes, streams, and effluent dominated.	Nitrate	Streams and effluent dominated.
Carbonate	Lakes, streams, and effluent dominated.	Radium 226 and 228	Streams and effluent dominated.
Chromium (Cr III + Cr VI)	Lakes, streams, and effluent dominated.	Total Suspended Solids	Streams and effluent dominated.
Cobalt (Co)	Lakes, streams, and effluent dominated.	Uranium (U)	Streams and effluent dominated.

Table 3.3.1 - Long-Term Sites

Site ID	Water Body Name	Watershed Name	Elev (ft)	Easting	Northing
01CHINLEWA01	Chinle Wash	Chinle Wash	5233	631470	4002105
01CRYSTALC03	Crystal Creek	Chinle Wash	7560	683657	3991821
01LUKACHUK05	Lukachukai Creek	Chinle Wash	6686	660908	4032211
01NAZLINIC09	Nazlini Wash	Chinle Wash	6249	640660	3973902
01TSAILECR12	Tsaile Creek	Chinle Wash	7100	663775	4016682
01WHEATFIE18	Wheatfields Creek	Chinle Wash	7483	675400	4012022
01WHISKEYC23	Whiskey Creek	Chinle Wash	7425	678262	4001560
01CRYSTALC28	Crystal Creek	Chinle Wash	7264	676157	3991180
01WHEATLAK31	Wheatfields Lake	Chinle Wash	7303	671520	4009349
01TSAILELA32	Tsaile Lake	Chinle Wash		661833	4016064
01WHEATLAK34	Wheatfields Lake	Chinle Wash	7287	671481	4008997
01MANYFARM38	Many Farms Lake	Chinle Wash	5304	626906	4024143
02TEECNOSP03	Teec Nos Pos Wash	Lwr SJ-4 Corners	6683	667455	4080848
03MONTEZUM01	Montezuma Creek	Montezuma Creek	4470	650935	4129394
04MCELMOCR01	McElmo Creek	McElmo Creek	4472	660555	4120666
05TORREONW02	Torreon Wash	Arroyo Chico	6332	839765	3966049
06CHACORIV01	Chaco River	Chaco Wash	5030	716228	4066743
06CAPTAINT02	Captain Tom Wash	Chaco Wash	8671	686166	4004597
06CHINDEWA08	Chinde Wash	Chaco Wash	5544	729669	4054694
06SANOSTEE09	Sanostee Wash	Chaco Wash	6083	687804	4033790
06WHISKEYL17	Whiskey Lake	Chaco Wash	8901	696791	3983458
06MORGANLA25	Morgan Lake	Chaco Wash	5308	724682	4065247
07MANCOSRI01	Mancos River	Mancos River	4630	679804	4094910
08GALLEGOS01	Gallegos Wash	Upper SJR	5511	756778	4059208
09BLANCOCA01	Blanco Canyon	Blanco Canyon	5820	791792	4057812
10OJOAMARI04	Ojo Amarillo Canyon	Middle SJR	5195	736945	4066612
10COVEWASH09	Cove Wash	Middle SJR	5913	663385	4051573
10SALTCREE11	Salt Creek Wash	Middle SJR	4863	702827	4077943
10BAKERARR23	Baker Arroyo	Middle SJR	4862	706848	4072788
12BLUEWATE01	Bluewater Creek	Rio San Jose	7287	763760	3910579
13ALAMOCRE01	Alamo Creek	Rio Salado	6168	823417	3812115
15BONITOCR02	Bonito Creek	Upper Puerco R	6802	674621	3956335
15ASAAYICR03	Asaayi Creek	Upper Puerco R	7760	688757	3986651
15PUERCORI08	Puerco River	Upper Puerco R	6309	690028	3929460
15BLACKCRE15	Black Creek	Upper Puerco R	5975	662235	3905806
15ASAAYILA16	Asaayi Lake	Upper Puerco R	7507	686663	3984043
15REDLAKEX17	Red Lake	Upper Puerco R	7047	676044	3978000

Table 3.3.1 - Long-Term Sites (continued)

Site ID	Water Body Name	Watershed Name	Elev (ft)	Easting	Northing
16PUERCORI01	Puerco River	Lower Puerco R	5883	657151	3902899
18KINLICHE03	Kinlichee Creek	Cottonwood Wash	6580	640692	3956625
18GANADOLA04	Ganado Lake	Cottonwood Wash	6444	633803	3955188
19LITTLECO01	Little Colorado River	Middle LCR	4742	524063	3893658
25LITTLECO02	Little Colorado River	Lower LCR	4111	465585	3968747
26MOENKOPI01	Moenkopi Wash	Moenkopi Wash	4508	473412	3994242
26BEGASHIB08	Begashibito Wash	Moenkopi Wash	6048	523003	4046234
26COWSPRLA09	Cow Springs Lake	Moenkopi Wash	5650	511597	4028102
27COLORADO01	Colorado River	Lwr CO-Marble Cyn	3094	446112	4078753
28NAVAJOCR03	Navajo Creek	Lower Lake Powell	4405	501414	4077070
28AZTECCRE04	Aztec Creek	Lower Lake Powell	4480	502033	4089679
29GYPSUMCR01	Gypsum Creek	Lower SJR	5040	584312	4088082
29NOKAICAN02	Nokai Canyon	Lower SJR	5889	542245	4076938
29OLJETOWA03	Oljeto Wash	Lower SJR	5362	558069	4078044
29PIUTECAN04	Piute Canyon	Lower SJR	4103	528869	4105738

Special Project Sites

Special Project Sites are sites selected to evaluate such things as water quality complaints, permit compliance, Total Maximum Daily Load (TMDL) studies, anti-degradation analyses, water quality standards development and other water quality investigations. Individual reports specific to the special project will be generated on a project by project basis.

Rotating Watershed-Specific Sites

A five-year rotating schedule (Figure 3.3.2) has been used in the past by NNEPA WQ/NNPDES Program to intensively monitor and characterize select watersheds each fiscal year. The watershed breakdown is based on several factors, including number of perennial waters, equal watershed areas, and location within major river basins. The NNEPA WQ/NNPDES Program may choose to use this monitoring schedule again.

Table 3.3.2. Five Year Rotating Watershed-Specific Sites

Watershed(s)	8-digit HUC(s)	Approx. Area on Navajo Nation (mi. sq.)	Year
Chinle Wash	14080204	4,181	1
Chaco Wash	14080106	4,501	2
Upper San Juan River	14080101	412	
Blanco Canyon	14080103	282	
Middle San Juan River	14080105	1,077	
Mancos River	14080107	64	
Lower San Juan – Four Corners	14080201	903	
McElmo Creek	14080202	66	
Montezuma Creek	14080203	89	
Middle Little Colorado River	15020008	495	3
Corn-Oraibi Wash	15020012	459	
Polacca Wash	15020013	519	
Jeddito Wash	15020014	637	
Canyon Diablo	15020015	121	
Lower Little Colorado River	15020016	1,218	
Dinnebito Wash	15020017	356	
Moenkopi Wash	15020018	1,985	
Zuni River	15020004	521	4
Upper Puerco River	15020006	1,756	
Lower Puerco River	15020007	527	
Leroux Wash	15020009	607	
Cottonwood Wash	15020011	1,400	
Rio Puerco	13020204	129	
Arroyo Chico	13020205	534	
Rio San Jose	13020207	341	
Rio Salado	13020209	95	
Lower San Juan River	14080205	1,526	5
Lower Lake Powell	14070006	1,504	
Lower Colorado – Marble Canyon	15010001	371	

4.0 Assessments of Navajo Nation Surface Waters

5.0 Rio Puerco Watershed Assessment (HUC 13020204)

The Rio Puerco Watershed is located on 2090 square miles within the Rio Grande Basin. The USGS 8-digit HUC for the Rio Puerco Watershed is 13020204 (USGS 1987). Water bodies located in the Navajo Nation within this watershed are listed in Table 5.0. The uses that are designated for these water bodies are listed in Table 5.1.

**Table 5.0 - Rio Puerco Watershed
Atlas of Surface Water Bodies**

(from Navajo Nation Department of Water Resources - March 31, 2009)

Surface Water Body Name	Length (miles) or Area (acres)
Rio Puerco within Navajo Nation boundary *for Tohajillee Chapter*	5.29

**Table 5.1 - Rio Puerco Watershed
Surface Waters with Designated Uses**

(from 2007 Navajo Nation Surface Water Quality Standards, Table 205.1)

Surface Water Body Name	Designated Uses*
Rio Puerco and tributaries within Navajo Nation boundary	ScHC, FC, A&WHbt, and LW

Footnotes: * = Designated Uses are: Dom = Domestic Water Supply,
PrHC = Primary Human Contact, ScHC = Secondary Human Contact,
AgWS = Agricultural Water Supply, FC = Fish Consumption,
A&WHbt = Aquatic and Wildlife Habitat, and LW = Livestock Watering.

6.0 Arroyo Chico Watershed Assessment (HUC 13020205)

The Arroyo Chico Watershed is located on 1360 square miles within the Rio Grande Basin. The USGS 8-digit HUC for the Arroyo Chico Watershed is 13020205 (USGS 1987). Water bodies located in the Navajo Nation within this watershed are listed in Table 6.0. The uses that are designated for these water bodies are listed in Table 6.1.

**Table 6.0 - Arroyo Chico Watershed
Atlas of Surface Water Bodies**

(from Navajo Nation Department of Water Resources - March 31, 2009)

Surface Water Body Name	Length (miles) or Area (acres)
Arroyo Chico and tributaries within Navajo Nation boundary	
Torreon Wash within Navajo Nation boundary	32.42

**Table 6.1 - Arroyo Chico Watershed
Surface Waters with Designated Uses**

(from 2007 Navajo Nation Surface Water Quality Standards, Table 205.1)

Surface Water Body Name	Designated Uses*
Arroyo Chico and tributaries within Navajo Nation boundary	ScHC, FC, A&WHbt, and LW
Torreon Wash within Navajo Nation boundary	ScHC, FC, A&WHbt, and LW

Footnotes: * = Designated Uses are: Dom = Domestic Water Supply,
PrHC = Primary Human Contact, ScHC = Secondary Human Contact,
AgWS = Agricultural Water Supply, FC = Fish Consumption,
A&WHbt = Aquatic and Wildlife Habitat, and LW = Livestock Watering.

7.0 Rio San Jose Watershed Assessment (HUC 13020207)

The Rio San Jose Watershed is located on 2620 square miles within the Rio Grande Basin. The USGS 8-digit HUC for the Rio San Jose Watershed is 13020207 (USGS 1987). Water bodies located in the Navajo Nation within this watershed are listed in Table 7.0. The uses that are designated for these water bodies are listed in Table 7.1.

**Table 7.0 - Rio San Jose Watershed
Atlas of Surface Water Bodies**

(from Navajo Nation Department of Water Resources - March 31, 2009)

Surface Water Body Name	Length (miles) or Area (acres)
Rio San Jose tributaries within Navajo Nation boundary	11.76
Bluewater Creek within Navajo Nation boundary	1.00
Mitchell Draw tributary of Rio San Jose	11.23

Table 7.1 - Rio San Jose Watershed Surface Waters with Designated Uses

(from 2007 Navajo Nation Surface Water Quality Standards, Table 205.1)

Surface Water Body Name	Designated Uses*
Rio San Jose tributaries within Navajo Nation boundary	ScHC, FC, A&WHbt, and LW
Bluewater Creek within Navajo Nation boundary	PrHC, ScHC, FC, A&WHbt, and LW

Footnotes: * = Designated Uses are: Dom = Domestic Water Supply,
PrHC = Primary Human Contact, ScHC = Secondary Human Contact,
AgWS = Agricultural Water Supply, FC = Fish Consumption,
A&WHbt = Aquatic and Wildlife Habitat, and LW = Livestock Watering.

8.0 Rio Salado Watershed Assessment (HUC 13020209)

The Rio Salado Watershed is located on 1390 square miles within the Rio Grande Basin. The USGS 8-digit HUC for the Rio Salado Watershed is 13020209 (USGS 1987). Water bodies located in the Navajo Nation within this watershed are listed in Table 8.0. The uses that are designated for these water bodies are listed in Table 8.1.

**Table 8.0 - Rio Salado Watershed
Atlas of Surface Water Bodies**

(from Navajo Nation Department of Water Resources - March 31, 2009)

Surface Water Body Name	Length (miles) or Area (acres)
Rio Salado within Navajo Nation boundary *for Alamo Chapter*	8.19
Alamo Creek within Navajo Nation boundary *for Alamo Chapter*	8.88

**Table 8.1 - Rio Salado Watershed
Surface Waters with Designated Uses**

(from 2007 Navajo Nation Surface Water Quality Standards, Table 205.1)

Surface Water Body Name	Designated Uses*
Rio Salado and tributaries within Navajo Nation boundary	ScHC, FC, A&WHbt, and LW

Alamo Creek within Navajo Nation boundary	PrHC, ScHC, FC, A&WHbt, and LW
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Footnotes: * = Designated Uses are: Dom = Domestic Water Supply, PrHC = Primary Human Contact, ScHC = Secondary Human Contact, AgWS = Agricultural Water Supply, FC = Fish Consumption, A&WHbt = Aquatic and Wildlife Habitat, and LW = Livestock Watering.

9.0 Lower Lake Powell Watershed Assessment (HUC 14070006)

The Lower Lake Powell Watershed is located on 2930 square miles within the Colorado River Basin. The USGS 8-digit HUC for the Lower Lake Powell Watershed is 14070006 (USGS 1987). Water bodies located in the Navajo Nation within this watershed are listed in Table 9.0. The uses that are designated for these water bodies are listed in Table 9.1.

**Table 9.0 - Lower Lake Powell Watershed
Atlas of Surface Water Bodies**

(from Navajo Nation Department of Water Resources - March 31, 2009)

Surface Water Body Name	Length (miles) Or Area (acres)
Colorado River mouth of Paria River to Glen Canyon Dam	16.85
Antelope Creek, Lake Powell shoreline at elevation 3720 feet to headwaters	21.10
Kaibito Creek, Lake Powell shoreline at elevation 3720 feet to headwaters	39.28
Navajo Creek Lake Powell shoreline at elevation 3720 feet to headwaters	49.91
Aztec Creek, Lake Powell shoreline at elevation 3720 feet to headwaters	17.61

**Table 9.1 - Lower Lake Powell Watershed
Surface Waters with Designated Uses**

(from 2007 Navajo Nation Surface Water Quality Standards, Table 205.1)

Surface Water Body Name	Designated Uses*
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Colorado River mouth of Paria River to Glen Canyon Dam	Dom, PrHC, ScHC, FC, A&WHbt, and LW
Antelope Creek, Lake Powell shoreline At elevation 3720 feet to headwaters	PrHC, ScHC, FC, A&WHbt, and LW
Kaibito Creek, Lake Powell shoreline At elevation 3720 feet to headwaters	PrHC, ScHC, FC, A&WHbt, and LW
Navajo Creek Lake Powell shoreline At elevation 3720 feet to headwaters	PrHC, ScHC, FC, A&WHbt, and LW
Aztec Creek, Lake Powell shoreline At elevation 3720 feet to headwaters	PrHC, ScHC, FC, A&WHbt, and LW

Footnotes: * = Designated Uses are: Dom = Domestic Water Supply,
PrHC = Primary Human Contact, ScHC = Secondary Human Contact,
AgWS = Agricultural Water Supply, FC = Fish Consumption,
A&WHbt = Aquatic and Wildlife Habitat, and LW = Livestock Watering.

10.0 Upper San Juan River Watershed Assessment (HUC 14080101)

The Upper San Juan River Watershed is located on 3430 square miles within the San Juan River Basin. The USGS 8-digit HUC for the Upper San Juan River Watershed is 14080101 (USGS 1987). Water bodies located in the Navajo Nation within this watershed are listed in Table 10.0. The uses that are designated for these water bodies are listed in Table 10.1.

**Table 10.0- Upper San Juan River Watershed
Atlas of Surface Water Bodies**

(from Navajo Nation Department of Water Resources - March 31, 2009)

Surface Water Body Name	Length (miles) or Area (acres)
San Juan River	6.28
Gallegos Canyon	36.78

**Table 10.1- Upper San Juan River Watershed
Surface Waters with Designated Uses**

(from 2007 Navajo Nation Surface Water Quality Standards, Table 205.1)

Surface Water	Designated Uses*
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Body Name	
San Juan River	Dom, PrHC, ScHC, AgWS FC, A&WHbt, and LW
Gallegos Canyon	PrHC, ScHC, FC, A&WHbt, and LW

Footnotes: * = Designated Uses are: Dom = Domestic Water Supply,
PrHC = Primary Human Contact, ScHC = Secondary Human Contact,
AgWS = Agricultural Water Supply, FC = Fish Consumption,
A&WHbt = Aquatic and Wildlife Habitat, and LW = Livestock Watering.

11.0 Blanco Canyon Watershed Assessment (HUC 14080103)

The Blanco Canyon Watershed is located on 1690 square miles within the San Juan River Basin. The USGS 8-digit HUC for the Blanco Canyon Watershed is 14080103 (USGS 1987). Water bodies located in the Navajo Nation within this watershed are listed in Table 11.0. The uses that are designated for these water bodies are listed in Table 11.1.

**Table 11.0- Blanco Canyon Watershed
Atlas of Surface Water Bodies**

(from Navajo Nation Department of Water Resources - March 31, 2009)

Surface Water Body Name	Length (miles) or Area (acres)
Blanco Canyon	7.80
Largo Canyon	2.60
Cutter Dam Reservoir	56.52

**Table 11.1- Blanco Canyon Watershed
Surface Waters with Designated Uses**

(from 2007 Navajo Nation Surface Water Quality Standards, Table 205.1)

Surface Water Body Name	Designated Uses*
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Blanco Canyon	ScHC, FC, A&WHbt, and LW
Largo Canyon	ScHC, FC, A&WHbt, and LW
Cutter Dam Reservoir	PrHC, ScHC, AgWS FC, A&WHbt, and LW

Footnotes: * = Designated Uses are: Dom = Domestic Water Supply,
PrHC = Primary Human Contact, ScHC = Secondary Human Contact,
AgWS = Agricultural Water Supply, FC = Fish Consumption,
A&WHbt = Aquatic and Wildlife Habitat, and LW = Livestock Watering.

12.0 Middle San Juan River Watershed Assessment HUC 14080105

The Middle San Juan River Watershed is located on 1920 square miles within the San Juan River Basin. The USGS 8-digit HUC for the Middle San Juan River Watershed is 14080105 (USGS 1987). Water bodies located in the Navajo Nation within this watershed are listed in Table 12.0. The uses that are designated for these water bodies are listed in Table 12.1.

**Table 12.0- Middle San Juan River Watershed
Atlas of Surface Water Bodies**

(from Navajo Nation Department of Water Resources - March 31, 2009)

Surface Water Body Name	Length (miles) or Area (acres)
San Juan River	63.27
Baker Arroyo	5.07
Cove Wash	17.99
Eagle Nest Arroyo	8.25
Pine Wash	7.81
Ojo Amarillo	12.70
Salt Creek Wash	20.71

Standing Redrock Creek	12.25
Red Wash	40.22

**Table 12.1 - Middle San Juan River Watershed
Surface Waters with Designated Uses**

(from 2007 Navajo Nation Surface Water Quality Standards, Table 205.1)

Surface Water Body Name	Designated Uses*
San Juan River	Dom, PrHC, ScHC, AgWS FC, A&WHbt, and LW
Baker Arroyo	ScHC, AgWS, FC, A&WHbt, and LW
Cove Wash	ScHC, FC, A&WHbt, and LW
Eagle Nest Arroyo	ScHC, FC, A&WHbt, and LW
Pine Wash	ScHC, FC, A&WHbt, and LW
Ojo Amarillo	PrHC, ScHC, FC, A&WHbt, and LW
Salt Creek Wash	ScHC, FC, A&WHbt, and LW
Standing Redrock Creek	ScHC, FC, A&WHbt, and LW
Red Wash	ScHC, FC, A&WHbt, and LW

Footnotes: * = Designated Uses are: Dom = Domestic Water Supply,
PrHC = Primary Human Contact, ScHC = Secondary Human Contact,
AgWS = Agricultural Water Supply, FC = Fish Consumption,
A&WHbt = Aquatic and Wildlife Habitat, and LW = Livestock Watering.

13.0 Chaco Wash Watershed Assessment (HUC 14080106)

The Chaco River Watershed is located on 4510 square miles within the San Juan River Basin.

The USGS 8-digit HUC for the Chaco River Watershed is 14080106 (USGS 1987). Water bodies

located in the Navajo Nation within this watershed are listed in Table 13.0. The uses that are designated for these water bodies are listed in Table 13.1.

**Table 13.0 - Chaco Wash Watershed
Atlas of Surface Water Bodies**

(from Navajo Nation Department of Water Resources - March 31, 2009)

Surface Water Body Name	Length (miles) or Area (acres)
Chaco Wash, mouth to mouth of Dead Man's Wash	3.15
Chaco Wash, mouth of Dead Man's Wash to Navajo Nation boundary	152.66
Dead Man's Wash, mouth to headwaters	32.04
Chinde Wash, mouth to headwaters	3.77
Cottonwood Arroyo, mouth to headwaters	13.50
Sanostee Wash (perennial reaches)	2.21
Sanostee Wash (non perennial reaches)	37.13
Tocito Wash, mouth to headwaters	
Brimhall Wash, mouth to Navajo Nation boundary	25.03
Captain Tom Wash (perennial reaches)	9.04
Captain Tom Wash (non perennial reaches)	25.83
Hunter Wash, mouth to Navajo Nation boundary	46.26
Sheep Springs Wash, mouth to headwaters	23.91
Coyote Wash, mouth to headwaters	43.96
Indian Creek, within Navajo Nation boundary	48.24
Red Willow Wash	29.92

Nation boundary	
De Na Zin Wash, mouth to Navajo Nation boundary	27.18
Berland Lake	8.31
Chuska Lake	83.84
Morgan Lake	1228.26
Whiskey Lake	153.53

**Table 13.1 - Chaco Wash Watershed
Surface Waters with Designated Uses**

(from 2007 Navajo Nation Surface Water Quality Standards, Table 205.1)

Surface Water Body Name	Designated Uses*
Chaco Wash, mouth to mouth of Dead Man's Wash	PrHC, ScHC, FC, A&WHbt, and LW
Chaco Wash, mouth of Dead Man's Wash to Navajo Nation boundary	ScHC, FC, A&WHbt, and LW
Dead Man's Wash, mouth to headwaters	ScHC, FC, A&WHbt, and LW
Chinde Wash, mouth to headwaters	ScHC, FC, A&WHbt, and LW
Cottonwood Arroyo, mouth to headwaters	ScHC, FC, A&WHbt, and LW
Sanostee Wash (perennial reaches)	PrHC, ScHC, AgWS, FC, A&WHbt, and LW
Sanostee Wash (non perennial reaches)	ScHC, AgWS, FC, A&WHbt, and LW
Tocito Wash, mouth to headwaters	ScHC, FC, A&WHbt, and LW
Brimhall Wash, mouth to Navajo Nation boundary	ScHC, FC, A&WHbt, and LW
Captain Tom Wash (perennial reaches)	PrHC, ScHC, AgWS, FC, A&WHbt, and LW
Captain Tom Wash (non perennial reaches)	ScHC, AgWS, FC, A&WHbt, and LW
Hunter Wash, mouth to Navajo	ScHC, FC,

Nation boundary	A&WHbt, and LW
Sheep Springs Wash, mouth to headwaters	ScHC, FC, A&WHbt, and LW
Coyote Wash, mouth to headwaters	ScHC, FC, A&WHbt, and LW
Indian Creek, within Navajo Nation boundary	ScHC, FC, A&WHbt, and LW
Red Willow Wash Nation boundary	ScHC, AgWS, FC, A&WHbt, and LW
De Na Zin Wash, mouth to Navajo Nation boundary	ScHC, FC, A&WHbt, and LW
Berland Lake	PrHC, ScHC, FC, A&WHbt, and LW
Chuska Lake	PrHC, ScHC, FC, A&WHbt, and LW
Morgan Lake	PrHC, ScHC, FC, A&WHbt, and LW
Whiskey Lake	PrHC, ScHC, FC, A&WHbt, and LW

Footnotes: * = Designated Uses are: Dom = Domestic Water Supply, PrHC = Primary Human Contact, ScHC = Secondary Human Contact, AgWS = Agricultural Water Supply, FC = Fish Consumption, A&WHbt = Aquatic and Wildlife Habitat, and LW = Livestock Watering.

14.0 Mancos River Watershed Assessment (HUC 14080107)

The Mancos River Watershed is located on 795 square miles within the San Juan River Basin. The USGS 8-digit HUC for the Mancos River Watershed is 14080107 (USGS 1987). Water bodies located in the Navajo Nation within this watershed are listed in Table 14.0. The uses that are designated for these water bodies are listed in Table 14.1.

**Table 14.0 - Mancos River Watershed
Atlas of Surface Water Bodies**

(from Navajo Nation Department of Water Resources - March 31, 2009)

Surface Water Body Name	Length (miles) or Area (acres)
Mancos River	3.51

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**Table 14.1 - Mancos River Watershed
Surface Waters with Designated Uses**

(from 2007 Navajo Nation Surface Water Quality Standards, Table 205.1)

Surface Water Body Name	Designated Uses*
Mancos River	ScHC, FC, A&WHbt, and LW

Footnotes: * = Designated Uses are: Dom = Domestic Water Supply,
PrHC = Primary Human Contact, ScHC = Secondary Human Contact,
AgWS = Agricultural Water Supply, FC = Fish Consumption,
A&WHbt = Aquatic and Wildlife Habitat, and LW = Livestock Watering.

15.0 Lower San Juan River - Four Corners Watershed Assessment (HUC 14080201)

The Lower San Juan River - Four Corners Watershed is located on 2000 square miles within the San Juan River Basin. The USGS 8-digit HUC for the Lower San Juan River - Four Corners Watershed is 14080201 (USGS 1987). Water bodies located in the Navajo Nation within this watershed are listed in Table 15.0. The uses that are designated for these water bodies are listed in Table 15.1.

**Table 15.0- Lower San Juan River - Four Corners Watershed
Atlas of Surface Water Bodies**

(from Navajo Nation Department of Water Resources - March 31, 2009)

Surface Water Body Name	Length (miles) or Area (acres)
San Juan River	56.89
Desert Creek	16.07

Gothic Creek	4.61
McCracken Canyon within Navajo Nation boundary	10.71
Teec Nos Pos Wash (perrenial)	0.13
Teec Nos Pos Wash (non perrenial)	8.03
Toh Dahstini Wash	15.47

**Table 15.1- Lower San Juan River - Four Corners Watershed
Surface Waters with Designated Uses**

(from 2007 Navajo Nation Surface Water Quality Standards, Table 205.1)

Surface Water Body Name	Designated Uses*
San Juan River	Dom, PrHC, ScHC, AgWS FC, A&WHbt, and LW
Desert Creek	ScHC, FC, A&WHbt, and LW
Gothic Creek	ScHC, FC, A&WHbt, and LW
McCracken Canyon within Navajo Nation boundary	ScHC, FC, A&WHbt, and LW
Teec Nos Pos Wash (perrenial)	PrHC, ScHC, AgWS FC, A&WHbt, and LW
Teec Nos Pos Wash (non perrenial)	ScHC, FC, A&WHbt, and LW
Toh Dahstini Wash	ScHC, AgWS, FC, A&WHbt, and LW

Footnotes: * = Designated Uses are: Dom = Domestic Water Supply,
PrHC = Primary Human Contact, ScHC = Secondary Human Contact,
AgWS = Agricultural Water Supply, FC = Fish Consumption,
A&WHbt = Aquatic and Wildlife Habitat, and LW = Livestock Watering.

16.0 McElmo Creek Watershed Assessment (HUC 14080202)

The McElmo Creek Watershed is located on 702 square miles within the San Juan River Basin. The USGS 8-digit HUC for the McElmo Creek Watershed is 14080202 (USGS 1987). Water bodies located in the Navajo Nation within this watershed are listed in Table 16.0. The uses that are designated for these water bodies are listed in Table 16.1.

**Table 16.0 - McElmo Creek Watershed
Atlas of Surface Water Bodies**

(from Navajo Nation Department of Water Resources - March 31, 2009)

Surface Water Body Name	Length (miles) or Area (acres)
McElmo Creek	17.76

**Table 16.1 - McElmo Creek Watershed
Surface Waters with Designated Uses**

(from 2007 Navajo Nation Surface Water Quality Standards, Table 205.1)

Surface Water Body Name	Designated Uses*
McElmo Creek	PrHC, ScHC, AgWS FC, A&WHbt, and LW

Footnotes: * = Designated Uses are: Dom = Domestic Water Supply, PrHC = Primary Human Contact, ScHC = Secondary Human Contact, AgWS = Agricultural Water Supply, FC = Fish Consumption, A&WHbt = Aquatic and Wildlife Habitat, and LW = Livestock Watering.

17.0 Montezuma Creek Watershed Assessment (HUC 14080203)

The Montezuma Creek Watershed is located on 1160 square miles within the San Juan River Basin. The USGS 8-digit HUC for the Montezuma Creek Watershed is 14080203 (USGS 1987). Water bodies located in the Navajo Nation within this watershed are listed in Table 17.0. The uses that are designated for these water bodies are listed in Table 17.1.

Table 17.0 - Montezuma Creek Watershed**Atlas of Surface Water Bodies**

(from Navajo Nation Department of Water Resources - March 31, 2009)

Surface Water Body Name	Length (miles) or Area (acres)
Montezuma Creek	19.16

Table 17.1 - Montezuma Creek Watershed**Surface Waters with Designated Uses**

(from 2007 Navajo Nation Surface Water Quality Standards, Table 205.1)

Surface Water Body Name	Designated Uses*
Montezuma Creek	ScHC, FC, A&WHbt, and LW

Footnotes: * = Designated Uses are: Dom = Domestic Water Supply,
 PrHC = Primary Human Contact, ScHC = Secondary Human Contact,
 AgWS = Agricultural Water Supply, FC = Fish Consumption,
 A&WHbt = Aquatic and Wildlife Habitat, and LW = Livestock Watering.

18.0 Chinle Wash Watershed Assessment (HUC 14080204)

The Chinle Wash Watershed is located on 4090 square miles within the San Juan River Basin. The USGS 8-digit HUC for the Chinle Wash Watershed is 14080204 (USGS 1987). Water bodies located in the Navajo Nation within this watershed are listed in Table 18.0. The uses that are designated for these water bodies are listed in Table 18.1.

Table 18.0 - Chinle Wash Watershed**Atlas of Surface Water Bodies**

(from Navajo Nation Department of Water Resources - March 31, 2009)

Surface Water Body Name	Length (miles) or
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	Area (acres)
Chinle Creek/Chinle Wash, mouth to mouth of Canyon de Chelly	
Many Farms Lake	1604.02
Walker Creek, perennial reaches, mouth to headwaters	20.91
Walker Creek, nonperennial reaches, mouth to headwaters	25.23
Laguna Creek, perennial reaches, mouth to headwaters	56.91
Laguna Creek, nonperennial reaches, mouth to headwaters	2.46
Tyende Creek, mouth to headwaters	30.23
Lukachukai Wash, perennial reaches, mouth to headwaters	0.48
Lukachukai Wash, nonperennial reaches, mouth to headwaters	27.04
Black Mountain Wash, mouth to headwaters	16.37
Nazlini Wash, perennial reaches, mouth to headwaters	
Nazlini Wash, nonperennial reaches, mouth to headwaters	22.45
Cottonwood Wash, mouth to headwaters	23.20
Balakai wash, mouth to headwaters	24.63
Canyon de Chelly Wash, mouth to mouth of Coyote Wash	23.93
Whiskey Creek, mouth of Wheatfields Creek to headwaters	21.88
Wheatfields Lake	218.34
Coyote Wash, mouth to headwaters	4.09
Canyon del Muerto Wash, mouth of Canyon de Chelly to Tsaile Lake	27.61
Tsaile Lake	260.11
Tsaile Creek, lake to headwaters	17.24

Crystal Creek	21.42
Little Whiskey Creek	5.54
Palisade Creek	5.27
Tohtso Creek	12.00
Wheatfields Creek	22.98
Aspen Lake	3.27
Round Rock Lake	54.08

**Table 18.1 - Chinle Wash Watershed
Surface Waters with Designated Uses**

(from 2007 Navajo Nation Surface Water Quality Standards, Table 205.1)

Surface Water Body Name	Designated Uses*
Chinle Creek/Chinle Wash, mouth to mouth of Canyon de Chelly	PrHC, ScHC, AgWS FC, A&WHbt, and LW
Many Farms Lake	PrHC, ScHC, AgWS FC, A&WHbt, and LW
Walker Creek, perennial reaches, mouth to headwaters	PrHC, ScHC, AgWS FC, A&WHbt, and LW
Walker Creek, nonperennial reaches, mouth to headwaters	ScHC, FC, A&WHbt, and LW
Laguna Creek, perennial reaches, mouth to headwaters	PrHC, ScHC, AgWS FC, A&WHbt, and LW
Laguna Creek, nonperennial reaches, mouth to headwaters	ScHC, FC, A&WHbt, and LW
Tyende Creek, mouth to headwaters	ScHC, FC, A&WHbt, and LW
Lukachukai Wash, perennial reaches, mouth to headwaters	Dom, PrHC, ScHC, AgWS FC, A&WHbt, and LW
Lukachukai Wash, nonperennial reaches, mouth to headwaters	ScHC, FC, A&WHbt, and LW
Black Mountain Wash,	ScHC, FC,

mouth to headwaters	A&WHbt, and LW
Nazlini Wash, perennial reaches, mouth to headwaters	ScHC, AgWS FC, A&WHbt, and LW
Nazlini Wash, nonperennial reaches, mouth to headwaters	ScHC, FC, A&WHbt, and LW
Cottonwood Wash, mouth to headwaters	ScHC, FC, A&WHbt, and LW
Balakai wash, mouth to headwaters	ScHC, FC, A&WHbt, and LW
Canyon de Chelly Wash, mouth to mouth of Coyote Wash	PrHC, ScHC, FC, A&WHbt, and LW
Whiskey Creek, mouth of Coyote Wash to headwaters	PrHC, ScHC, AgWS FC, A&WHbt, and LW
Wheatfields Lake	PrHC, ScHC, AgWS FC, A&WHbt, and LW
Coyote Wash, mouth to headwaters	ScHC, FC, A&WHbt, and LW
Canyon del Muerto Wash, mouth of Canyon de Chelly to Tsaile Lake	PrHC, ScHC, AgWS FC, A&WHbt, and LW
Tsaile Lake	PrHC, ScHC, AgWS FC, A&WHbt, and LW
Tsaile Creek, lake to headwaters	PrHC, ScHC, AgWS FC, A&WHbt, and LW
Crystal Creek	PrHC, ScHC, AgWS FC, A&WHbt, and LW
Little Whiskey Creek	PrHC, ScHC, FC, A&WHbt, and LW
Palisade Creek	PrHC, ScHC, FC, A&WHbt, and LW
Tohtso Creek	PrHC, ScHC, AgWS FC, A&WHbt, and LW
Wheatfields Creek	PrHC, ScHC, AgWS FC, A&WHbt, and LW
Aspen Lake	PrHC, ScHC, FC, A&WHbt, and LW
Round Rock Lake	PrHC, ScHC, AgWS FC, A&WHbt, and LW

Footnotes: * = Designated Uses are: Dom = Domestic Water Supply,

PrHC = Primary Human Contact, ScHC = Secondary Human Contact,

AgWS = Agricultural Water Supply, FC = Fish Consumption,

A&WHbt = Aquatic and Wildlife Habitat, and LW = Livestock Watering.

19.0 Lower San Juan River Watershed Assessment (HUC 14080205)

The Lower San Juan River Watershed is located on 2320 square miles within the San Juan River Basin. The USGS 8-digit HUC for the Lower San Juan River Watershed is 14080205 (USGS 1987). Water bodies located in the Navajo Nation within this watershed are listed in Table 19.0. The uses that are designated for these water bodies are listed in Table 19.1.

**Table 19.0- Lower San Juan River Watershed
Atlas of Surface Water Bodies**

(from Navajo Nation Department of Water Resources - March 31, 2009)

Surface Water Body Name	Length (miles) or Area (acres)
San Juan River	
Gypsum Creek, mouth to headwaters	26.57
Nokai Canyon, shore of Lake Powell at elevation 3720 feet to headwaters	33.32
Oljeto Wash, mouth to headwaters	39.57

**Table 19.1- Lower San Juan River Watershed
Surface Waters with Designated Uses**

(from 2007 Navajo Nation Surface Water Quality Standards, Table 205.1)

Surface Water Body Name	Designated Uses*
San Juan River	Dom, PrHC, ScHC, AgWS FC, A&WHbt, and LW
Gypsum Creek, mouth to headwaters	ScHC, FC, A&WHbt, and LW
Nokai Canyon, shore of Lake Powell at Elevation 3720 feet to headwaters	ScHC, FC, A&WHbt, and LW

Oljeto Wash, mouth to headwaters	ScHC, FC, A&WHbt, and LW
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Footnotes: * = Designated Uses are: Dom = Domestic Water Supply,
PrHC = Primary Human Contact, ScHC = Secondary Human Contact,
AgWS = Agricultural Water Supply, FC = Fish Consumption,
A&WHbt = Aquatic and Wildlife Habitat, and LW = Livestock Watering.

20.0 Lower Colorado River - Marble Canyon Watershed Assessment (HUC 15010001)

The Lower Colorado River – Marble Canyon Watershed is located on 1430 square miles within the Colorado River Basin. The USGS 8-digit HUC for the Lower Colorado River – Marble Canyon Watershed is 15010001 (USGS 1987). Water bodies located in the Navajo Nation within this watershed are listed in Table 20.0. The uses that are designated for these water bodies are listed in Table 20.1.

**Table 20.0 - Lower Colorado River - Marble Canyon Watershed
Atlas of Surface Water Bodies**
(from Navajo Nation Department of Water Resources - March 31, 2009)

Surface Water Body Name	Length (miles) Or Area (acres)
Tatahatso Wash, mouth to headwaters	13.92
Shinumo Wash, mouth to headwaters	13.83
Tiger Wash, mouth to headwaters	8.56
Tanner Wash, mouth to headwaters	27.36
Colorado River, mouth of Little Colorado River to mouth of Paria River	60.96

**Table 20.1 - Lower Colorado River - Marble Canyon Watershed
Surface Waters with Designated Uses**
(from 2007 Navajo Nation Surface Water Quality Standards, Table 205.1)

Surface Water Body Name	Designated Uses*
Tatahatso Wash, mouth to headwaters	ScHC, FC,

	A&WHbt, and LW
Shinumo Wash, mouth to headwaters	ScHC, FC, A&WHbt, and LW
Tiger Wash, mouth to headwaters	ScHC, FC, A&WHbt, and LW
Tanner Wash, mouth to headwaters	ScHC, FC, A&WHbt, and LW
Colorado River, mouth of Little Colorado River to mouth of Paria River	Dom, PrHC, ScHC, FC, A&WHbt, and LW

Footnotes: * = Designated Uses are: Dom = Domestic Water Supply,
PrHC = Primary Human Contact, ScHC = Secondary Human Contact,
AgWS = Agricultural Water Supply, FC = Fish Consumption,
A&WHbt = Aquatic and Wildlife Habitat, and LW = Livestock Watering.

21.0 Zuni River Watershed Assessment (HUC 15020004)

The Zuni River Watershed is located on 2730 square miles within the Little Colorado River Basin. The USGS 8-digit HUC for the Zuni River Watershed is 15020004 (USGS 1987). Water bodies located in the Navajo Nation within this watershed are listed in Table 21.0. The uses that are designated for these water bodies are listed in Table 21.1.

**Table 21.0 - Zuni River Watershed
Atlas of Surface Water Bodies**

(from Navajo Nation Department of Water Resources - March 31, 2009)

Surface Water Body Name	Length (miles) or Area (acres)
Rio Pescado, NN and non-NN	15.96
Zuni River tributaries within Navajo Nation boundary	

**Table 21.1 - Zuni River Watershed
Surface Waters with Designated Uses**

(from 2007 Navajo Nation Surface Water Quality Standards, Table 205.1)

Surface Water Body Name	Designated Uses*
Rio Pescado, within Navajo Nation boundary	PrHC, ScHC, AgWS, FC, A&WHbt, and LW
Zuni River tributaries within Navajo Nation boundary	ScHC, FC, A&WHbt, and LW

Footnotes: * = Designated Uses are: Dom = Domestic Water Supply,
PrHC = Primary Human Contact, ScHC = Secondary Human Contact,
AgWS = Agricultural Water Supply, FC = Fish Consumption,
A&WHbt = Aquatic and Wildlife Habitat, and LW = Livestock Watering.

22.0 Upper Puerco River Watershed Assessment (HUC 15020006)

The Upper Puerco River Watershed is located on 1890 square miles within the Little Colorado River Basin. The USGS 8-digit HUC for the Upper Puerco River Watershed is 15020006 (USGS 1987). Water bodies located in the Navajo Nation within this watershed are listed in Table 22.0. The uses that are designated for these water bodies are listed in Table 22.1.

**Table 22.0 - Upper Puerco River Watershed
Atlas of Surface Water Bodies**

(from Navajo Nation Department of Water Resources - March 31, 2009)

Surface Water Body Name	Length (miles) or Area (acres)
Puerco River Trust and private	91.02
Black Creek, mouth to headwaters	69.09
Tohdildonih Wash,	14.49
Asaayi Lake	27.99
Asaayi (Bowl) Creek, Asaayi Lake to headwaters	11.83
Bonito Creek	19.45
Red Lake	592.12

Trout Lake	4.66
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**Table 22.1 - Upper Puerco River Watershed
Surface Waters with Designated Uses**

(from 2007 Navajo Nation Surface Water Quality Standards, Table 205.1)

Surface Water Body Name	Designated Uses*
Puerco River, within Navajo Nation boundary	Dom, ScHC, FC, A&WHbt, and LW
Black Creek, mouth to headwaters	PrHC, ScHC, FC, A&WHbt, and LW
Tohdildonih Wash, mouth to Asaayi Lake	ScHC, AgWS, FC, A&WHbt, and LW
Asaayi Lake	PrHC, ScHC, AgWS, FC, A&WHbt, and LW
Asaayi (Bowl) Creek, Asaayi Lake to headwaters	PrHC, ScHC, AgWS, FC, A&WHbt, and LW
Asaayi (Bowl) Creek - East Fork	PrHC, ScHC, AgWS, FC, A&WHbt, and LW
Bonito Creek	PrHC, ScHC, FC, A&WHbt, and LW
Red Lake	PrHC, ScHC, FC, A&WHbt, and LW
Trout Lake	PrHC, ScHC, FC, A&WHbt, and LW

Footnotes: * = Designated Uses are: Dom = Domestic Water Supply,
PrHC = Primary Human Contact, ScHC = Secondary Human Contact,
AgWS = Agricultural Water Supply, FC = Fish Consumption,
A&WHbt = Aquatic and Wildlife Habitat, and LW = Livestock Watering.

23.0 Lower Puerco River Watershed Assessment (HUC 15020007)

The Lower Puerco River Watershed is located on 1100 square miles within the Little Colorado River Basin. The USGS 8-digit HUC for the Lower Puerco River Watershed is 15020007 (USGS 1987). Water bodies located in the Navajo Nation within this watershed are listed in Table 23.0.

The uses that are designated for these water bodies are listed in Table 23.1.

Table 23.0 - Lower Puerco River Watershed**Atlas of Surface Water Bodies**

(from Navajo Nation Department of Water Resources - March 31, 2009)

Surface Water Body Name	Length (miles) or Area (acres)
Puerco River, within Navajo Nation boundary	12.56

Table 23.1 - Lower Puerco River Watershed**Surface Waters with Designated Uses**

(from 2007 Navajo Nation Surface Water Quality Standards, Table 205.1)

Surface Water Body Name	Designated Uses*
Puerco River, within Navajo Nation boundary	Dom, ScHC, FC, A&WHbt, and LW

Footnotes: * = Designated Uses are: Dom = Domestic Water Supply,
 PrHC = Primary Human Contact, ScHC = Secondary Human Contact,
 AgWS = Agricultural Water Supply, FC = Fish Consumption,
 A&WHbt = Aquatic and Wildlife Habitat, and LW = Livestock Watering.

24.0 Middle Little Colorado River Watershed Assessment (HUC 15020008)

The Middle Little Colorado River Watershed is located on 2450 square miles within the Little Colorado River Basin. The USGS 8-digit HUC for the Middle Little Colorado River Watershed is 15020008 (USGS 1987). Water bodies located in the Navajo Nation within this watershed are listed in Table 24.0. The uses that are designated for these water bodies are listed in Table 24.1.

Table 24.0 - Middle Little Colorado River Watershed**Atlas of Surface Water Bodies**

(from Navajo Nation Department of Water Resources - March 31, 2009)

Surface Water Body Name	Length (miles) or Area (acres)
Little Colorado River	59.08

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Table 24.1 - Middle Little Colorado River Watershed**Surface Waters with Designated Uses**

(from 2007 Navajo Nation Surface Water Quality Standards, Table 205.1)

Surface Water Body Name	Designated Uses*
Little Colorado River	PrHC, ScHC, FC, A&WHbt, and LW

Footnotes: * = Designated Uses are: Dom = Domestic Water Supply,
 PrHC = Primary Human Contact, ScHC = Secondary Human Contact,
 AgWS = Agricultural Water Supply, FC = Fish Consumption,
 A&WHbt = Aquatic and Wildlife Habitat, and LW = Livestock Watering.

25.0 Leroux Wash Watershed Assessment (HUC 15020009)

The Leroux Wash Watershed is located on 801 square miles within the Little Colorado River Basin. The USGS 8-digit HUC for the Leroux Wash Watershed is 15020009 (USGS 1987). Water bodies located in the Navajo Nation within this watershed are listed in Table 25.0. The uses that are designated for these water bodies are listed in Table 25.1.

Table 25.0 - Leroux Wash Watershed**Atlas of Surface Water Bodies**

(from Navajo Nation Department of Water Resources - March 31, 2009)

Surface Water Body Name	Length (miles) or Area (acres)
Leroux Wash, within Navajo Nation boundary	12.03
Antelope Lake	4.31

Table 25.1 - Leroux Wash Watershed**Surface Waters with Designated Uses**

(from 2007 Navajo Nation Surface Water Quality Standards, Table 205.1)

Surface Water	Designated Uses*
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Body Name	
Leroux Wash, within Navajo Nation boundary	ScHC, FC, A&WHbt, and LW
Antelope Lake	PrHC, ScHC, FC, A&WHbt, and LW

Footnotes: * = Designated Uses are: Dom = Domestic Water Supply, PrHC = Primary Human Contact, ScHC = Secondary Human Contact, AgWS = Agricultural Water Supply, FC = Fish Consumption, A&WHbt = Aquatic and Wildlife Habitat, and LW = Livestock Watering.

26.0 Cottonwood Wash Watershed Assessment (HUC 15020011)

The Cottonwood Wash Watershed is located on 1610 square miles within the Little Colorado River Basin. The USGS 8-digit HUC for the Cottonwood Wash Watershed is 15020011 (USGS 1987). Water bodies located in the Navajo Nation within this watershed are listed in Table 26.0. The uses that are designated for these water bodies are listed in Table 26.1.

**Table 26.0 - Cottonwood Wash Watershed
Atlas of Surface Water Bodies**

(from Navajo Nation Department of Water Resources - March 31, 2009)

Surface Water Body Name	Length (miles) or Area (acres)
Cottonwood Wash, within Navajo Nation boundary (to Indian Wells)	10.73
Kinlichee Creek	17.13
Ganado Lake	274.21
Pueblo Colorado Wash	87.74

**Table 26.1 - Cottonwood Wash Watershed
Surface Waters with Designated Uses**

(from 2007 Navajo Nation Surface Water Quality Standards, Table 205.1)

Surface Water Body Name	Designated Uses*
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Cottonwood Wash, within Navajo Nation boundary	ScHC, FC, A&WHbt, and LW
Kinlichee Creek	ScHC, AgWS, FC, A&WHbt, and LW
Ganado Lake	PrHC, ScHC, FC, A&WHbt, and LW
Pueblo Colorado Wash	PrHC, ScHC, FC, A&WHbt, and LW

Footnotes: * = Designated Uses are: Dom = Domestic Water Supply, PrHC = Primary Human Contact, ScHC = Secondary Human Contact, AgWS = Agricultural Water Supply, FC = Fish Consumption, A&WHbt = Aquatic and Wildlife Habitat, and LW = Livestock Watering.

27.0 Corn-Oraibi Wash Watershed Assessment (HUC 15020012)

The Corn-Oraibi Wash Watershed is located on 864 square miles within the Little Colorado River Basin. The USGS 8-digit HUC for the Corn-Oraibi Wash Watershed is 15020012 (USGS 1987).

Water bodies located in the Navajo Nation within this watershed are listed in Table 27.0. The uses that are designated for these water bodies are listed in Table 27.1.

**Table 27.0 - Corn-Oraibi Wash Watershed
Atlas of Surface Water Bodies**

(from Navajo Nation Department of Water Resources - March 31, 2009)

Surface Water Body Name	Length (miles) or Area (acres)
Corn Creek Wash, within Navajo Nation boundary	10.61
Oraibi Wash, within Navajo Nation boundary	58.03

**Table 27.1 - Corn-Oraibi Wash Watershed
Surface Waters with Designated Uses**

(from 2007 Navajo Nation Surface Water Quality Standards, Table 205.1)

Surface Water Body Name	Designated Uses*
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Corn Creek Wash, within Navajo Nation boundary	ScHC, FC, A&WHbt, and LW
Oraibi Wash, within Navajo Nation boundary	ScHC, FC, A&WHbt, and LW

Footnotes: * = Designated Uses are: Dom = Domestic Water Supply, PrHC = Primary Human Contact, ScHC = Secondary Human Contact, AgWS = Agricultural Water Supply, FC = Fish Consumption, A&WHbt = Aquatic and Wildlife Habitat, and LW = Livestock Watering.

28.0 Polacca Wash Watershed Assessment (HUC 15020013)

The Polacca Wash Watershed is located on 1070 square miles within the Little Colorado River Basin. The USGS 8-digit HUC for the Polacca Wash Watershed is 15020013 (USGS 1987). Water bodies located in the Navajo Nation within this watershed are listed in Table 28.0. The uses that are designated for these water bodies are listed in Table 28.1.

**Table 28.0 - Polacca Wash Watershed
Atlas of Surface Water Bodies**

(from Navajo Nation Department of Water Resources - March 31, 2009)

Surface Water Body Name	Length (miles) or Area (acres)
Polacca Wash, within Navajo Nation boundary	35.24

**Table 28.1 - Polacca Wash Watershed
Surface Waters with Designated Uses**

(from 2007 Navajo Nation Surface Water Quality Standards, Table 205.1)

Surface Water Body Name	Designated Uses*
Polacca Wash, within Navajo Nation boundary	ScHC, FC, A&WHbt, and LW

Footnotes: * = Designated Uses are: Dom = Domestic Water Supply,

PrHC = Primary Human Contact, ScHC = Secondary Human Contact,
 AgWS = Agricultural Water Supply, FC = Fish Consumption,
 A&WHbt = Aquatic and Wildlife Habitat, and LW = Livestock Watering.

28.0 Jeddito Wash Watershed Assessment (HUC 15020014)

The Jeddito Wash Watershed is located on 1050 square miles within the Little Colorado River Basin. The USGS 8-digit HUC for the Jeddito Wash Watershed is 15020014 (USGS 1987). Water bodies located in the Navajo Nation within this watershed are listed in Table 29.0. The uses that are designated for these water bodies are listed in Table 29.1.

**Table 29.0 - Jeddito Wash Watershed
 Atlas of Surface Water Bodies**

(from Navajo Nation Department of Water Resources - March 31, 2009)

Surface Water Body Name	Length (miles) or Area (acres)
Jeddito Wash, within Navajo Nation boundary	45.69

**Table 29.1 - Jeddito Wash Watershed
 Surface Waters with Designated Uses**

(from 2007 Navajo Nation Surface Water Quality Standards, Table 205.1)

Surface Water Body Name	Designated Uses*
Jeddito Wash, within Navajo Nation boundary	ScHC, FC, A&WHbt, and LW

Footnotes: * = Designated Uses are: Dom = Domestic Water Supply,
 PrHC = Primary Human Contact, ScHC = Secondary Human Contact,
 AgWS = Agricultural Water Supply, FC = Fish Consumption,
 A&WHbt = Aquatic and Wildlife Habitat, and LW = Livestock Watering.

30.0 Canyon Diablo Watershed Assessment (HUC 15020015)

The Canyon Diablo Watershed is located on 1200 square miles within the Little Colorado River Basin. The USGS 8-digit HUC for the Canyon Diablo Watershed is 15020015 (USGS 1987). Water bodies located in the Navajo Nation within this watershed are listed in Table 30.0. The uses that are designated for these water bodies are listed in Table 30.1.

Table 30.0 - Canyon Diablo Watershed

Atlas of Surface Water Bodies

(from Navajo Nation Department of Water Resources - March 31, 2009)

Surface Water Body Name	Length (miles) or Area (acres)
Canyon Diablo, mouth to Navajo Nation boundary	19.70
San Francisco Wash, mouth to Navajo Nation boundary	4.82
Padre Canyon, mouth to Navajo Nation boundary	14.16
Youngs Canyon, mouth to Navajo Nation boundary	2.90
Yellow Jacket Canyon, mouth to Navajo Nation boundary	5.77

Table 30.1 - Canyon Diablo Watershed

Surface Waters with Designated Uses

(from 2007 Navajo Nation Surface Water Quality Standards, Table 205.1)

Surface Water Body Name	Designated Uses*
Canyon Diablo, mouth to Navajo Nation boundary	ScHC, FC, A&WHbt, and LW
San Francisco Wash, mouth to Navajo Nation boundary	ScHC, FC, A&WHbt, and LW
Padre Canyon, mouth to Navajo Nation boundary	ScHC, FC, A&WHbt, and LW
Youngs Canyon, mouth to Navajo Nation boundary	ScHC, FC, A&WHbt, and LW
Yellow Jacket Canyon, mouth to Navajo Nation boundary	ScHC, FC, A&WHbt, and LW

Footnotes: * = Designated Uses are: Dom = Domestic Water Supply,
 PrHC = Primary Human Contact, ScHC = Secondary Human Contact,
 AgWS = Agricultural Water Supply, FC = Fish Consumption,
 A&WHbt = Aquatic and Wildlife Habitat, and LW = Livestock Watering.

31.0 Lower Little Colorado River Watershed Assessment (HUC 15020016)

The Lower Little Colorado River Watershed is located on 2390 square miles within the Little Colorado River Basin. The USGS 8-digit HUC for the Lower Little Colorado River Watershed is 15020016 (USGS 1987). Water bodies located in the Navajo Nation within this watershed are listed in Table 31.0. The uses that are designated for these water bodies are listed in Table 31.1.

**Table 31.0 - Lower Little Colorado River Watershed
 Atlas of Surface Water Bodies**
 (from Navajo Nation Department of Water Resources - March 31, 2009)

Surface Water Body Name	Length (miles) or Area (acres)
Little Colorado River, mouth to origin of perennial flow (between mouth of Lee Canyon and USGS Gaging Station)	39.17
Little Colorado River, origin of perennial flow to Navajo Nation boundary	27.97
Lee Canyon, mouth to headwaters	5.23
Tappan Wash, mouth to headwaters	16.31
Cedar Wash, mouth to headwaters	24.65
Deadman Wash, mouth to headwaters	

**Table 31.0 - Lower Little Colorado River Watershed
 Surface Waters with Designated Uses**
 (from 2007 Navajo Nation Surface Water Quality Standards, Table 205.1)

Surface Water	Designated Uses*
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Body Name	
Little Colorado River, mouth to origin of perennial flow (between mouth of Lee Canyon and USGS Gaging Station)	Dom, PrHC, ScHC, FC, A&WHbt, and LW
Little Colorado River, origin of perennial flow to Navajo Nation boundary	Dom, PrHC, ScHC, FC, A&WHbt, and LW
Lee Canyon, mouth to headwaters	ScHC, FC, A&WHbt, and LW
Tappan Wash, mouth to headwaters	ScHC, FC, A&WHbt, and LW
Cedar Wash, mouth to headwaters	ScHC, FC, A&WHbt, and LW
Deadman Wash, mouth to headwaters	ScHC, FC, A&WHbt, and LW

Footnotes: * = Designated Uses are: Dom = Domestic Water Supply, PrHC = Primary Human Contact, ScHC = Secondary Human Contact, AgWS = Agricultural Water Supply, FC = Fish Consumption, A&WHbt = Aquatic and Wildlife Habitat, and LW = Livestock Watering.

32.0 Dinnebito Wash Watershed Assessment (HUC 15020017)

The Dinnebito Wash Watershed is located on 737 square miles within the Little Colorado River Basin. The USGS 8-digit HUC for the Dinnebito Wash Watershed is 15020017 (USGS 1987). Water bodies located in the Navajo Nation within this watershed are listed in Table 32.0. The uses that are designated for these water bodies are listed in Table 32.1.

**Table 32.0 - Dinnebito Wash Watershed
Atlas of Surface Water Bodies**

(from Navajo Nation Department of Water Resources - March 31, 2009)

Surface Water Body Name	Length (miles) or Area (acres)
Dinnebito Wash, within Navajo Nation boundary	72.06
East Fork Dinnebito Wash	17.97

Table 32.1 - Dinnebito Wash Watershed**Surface Waters with Designated Uses**

(from 2007 Navajo Nation Surface Water Quality Standards, Table 205.1)

Surface Water Body Name	Designated Uses*
Dinnebito Wash, within Navajo Nation boundary	ScHC, FC, A&WHbt, and LW
East Fork Dinnebito Wash	ScHC, FC, A&WHbt, and LW

Footnotes: * = Designated Uses are: Dom = Domestic Water Supply,
 PrHC = Primary Human Contact, ScHC = Secondary Human Contact,
 AgWS = Agricultural Water Supply, FC = Fish Consumption,
 A&WHbt = Aquatic and Wildlife Habitat, and LW = Livestock Watering.

33.0 Moenkopi Wash Watershed Assessment (HUC 15020018)

The Moenkopi Wash Watershed is located on 2640 square miles within the Little Colorado River Basin. The USGS 8-digit HUC for the Moenkopi Wash Watershed is 15020018 (USGS 1987). Water bodies located in the Navajo Nation within this watershed are listed in Table 33.0. The uses that are designated for these water bodies are listed in Table 33.1.

**Table 33.0 - Moenkopi Wash Watershed
Atlas of Surface Water Bodies**

(from Navajo Nation Department of Water Resources - March 31, 2009)

Surface Water Body Name	Length (miles) or Area (acres)
Moenkopi Wash, mouth to headwaters	63.53
Hamblin Wash, mouth to headwaters	30.30
Begashibito Wash, mouth to headwaters	33.69
Shonto Wash, mouth to headwaters	24.04
Cow Springs Lake	74.20

White Mesa Lake	20.91
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Table 33.1 - Moenkopi Wash Watershed**Surface Waters with Designated Uses**

(from 2007 Navajo Nation Surface Water Quality Standards, Table 205.1)

Surface Water Body Name	Designated Uses*
Moenkopi Wash, mouth to headwaters	ScHC, AgWS, FC, A&WHbt, and LW
Hamblin Wash, mouth to headwaters	ScHC, FC, A&WHbt, and LW
Begashibito Wash, mouth to headwaters	ScHC, FC, A&WHbt, and LW
Shonto Wash, mouth to headwaters	ScHC, FC, A&WHbt, and LW
Cow Springs Lake	PrHC, ScHC, FC, A&WHbt, and LW
White Mesa Lake	PrHC, ScHC, FC, A&WHbt, and LW

Footnotes: * = Designated Uses are: Dom = Domestic Water Supply,
 PrHC = Primary Human Contact, ScHC = Secondary Human Contact,
 AgWS = Agricultural Water Supply, FC = Fish Consumption,
 A&WHbt = Aquatic and Wildlife Habitat, and LW = Livestock Watering.

33.0

34.0

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